

City News

JANUARY 2005

No. 7

Welcome... and Happy New Year!

This is the first of our 'new style' of newsletter and we do hope you will find it more informative.

Thanks: I would like to thank everyone who visited City at the APPEX Show in Las Vegas USA in November 2004. The show was very well attended and we enjoyed considerable interest for City's **IRidium®** Infrared gas bench and the automotive oxygen and nitric oxide sensors. City is a leading provider to OEMs globally who manufacture vehicle exhaust gas analysers.

City Team: We are pleased to announce a new appointment (see inside) within our sales team; this will undoubtedly

strengthen and increase our level of global support for our Customers. **See City:** City will be exhibiting at AHR 2005 in Orlando, USA, February 7-9, more details enclosed.

Do enjoy this new edition of City News and let me take this opportunity to thank you for your most valued business and continued interest in our products. **Thank you.**

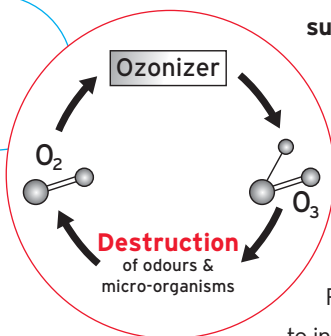
Colin Arlott, Director and General Manager



Ozone detection

A powerful oxidant and disinfectant, ozone is used to oxidize and destroy pathogenic micro-organisms in water supplies, cleaning of food production halls, storage, packaging and sterilisation of medical equipment. The use of ozone can also improve the aesthetic qualities of water,

such as taste, odour, and colour by destroying certain impurities which cause these problems. Ozone also destroys odours produced by industrial processes, moulds and even cigarette odours.



Recent technological advances have led to increased reliability in both ozonation equipment and processes, so consequently the use of ozone in the world is on the rise. Also, given current and proposed drinking water regulations, the use of ozone will likely become the most

attractive alternative for primary disinfection for many water utilities.

Due to the high toxicity of ozone, (though it eventually decomposes to form harmless oxygen), it is necessary to monitor the environments where ozone is used or produced and control its effective concentration.

When ozone is inhaled, it can damage the lungs. Relatively low amounts can cause chest pain, coughing, shortness of breath, and throat irritation. Ozone may also exacerbate chronic respiratory diseases such as asthma and compromise the ability of the body to combat respiratory infections.



Ozone is being increasingly used as a disinfectant in water treatment plants

continued overleaf



THE POWER BEHIND
GAS DETECTION

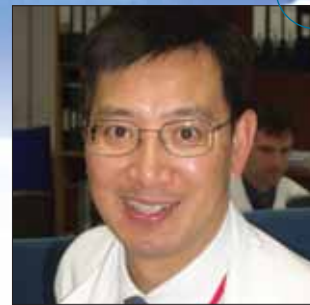
Also in this issue:

- Profile on Teddy Chow
- Technology Focus - Biosensors
- Sensor 2005 - Nuremberg
- New Addition to North American Technical Support Team
- City Out & About

IN PROFILE

Teddy Chow

To many of our customers the name of Teddy Chow is synonymous with that of City Technology. This is not surprising as Teddy has been part of the "R&D Family" at City for the last 20 years.



Teddy Chow -
20 years at City Technology

Teddy joined City in December 1984 at our original premises on the City University campus in London. On joining Teddy already had a degree in Chemistry and Management from City University and went on, over the next few years, to gain a PhD in electrochemistry whilst working at City Technology.



Teddy's career at City began working for Robert Chan-Henry extending our then small range of toxic gas sensors to include gases other than CO and H₂S. Since then Teddy has been instrumental in the development of the 7 and 4 Series range of sensors and most recently the MICROcel™ products.

Teddy is now responsible for most of City's toxic gas safety products and also our electrode and catalyst processes.

As Teddy explains, he has seen many changes over the last 20 years. **"When I joined City in 1984 we had a range of 20**

products and today that has grown to over 200. Although the underlying electrochemistry is very similar, the way we develop and build products has changed over the years as we continually look to make the products more reliable, easier and quicker to build and to extend their performance."

One area of business Teddy particularly enjoys is supporting customers. In the last 20 years there are not many parts of the world he has not visited and he is well known to many of our customers, large and small. But it is only in the last 6 months that Teddy has visited China for the first time, this is particularly surprising as Teddy is originally from Hong Kong and a fluent Chinese speaker! It may have taken almost 20 years to get to China but it is unlikely to be as long before his next visit.

If you would like to ask Teddy about any of our toxic gas sensors or how they work please send your questions to nicola.nye@citytech.co.uk and Teddy will reply in the next issue.

'Ozone Detection' continued

The US Occupational Safety and Health Administration (OSHA) has set a general industry PEL for ozone of 0.1ppm for an 8 hr TWA, and UL tests ozone-generating appliances to ensure concentrations never exceed 60ppb in a 10 cubic feet space.

City Technology has been receiving an increasing number of inquiries for methods of ozone detection. City Technology is well placed to help and can offer both electrochemical and MMOS sensors for these applications.

City has four electrochemical sensors for detecting ozone, 7OZ, 7O3, 3OZ and A3OZ. The 3OZ sensor can be supplied with a small pcb to provide either millivolt or 4-20mA output. City has also recently introduced a MMOS ozone sensor, CAP21, which is

ideal for use in air-cleaners and air filtration equipment.

This new sensor has been selected by a retail products manufacturer for use in a high volume residential air movement/purification appliance. These are becoming ever more popular with consumers as home air quality issues continue to increase.

City's ozone sensors are used in a wide range of ozone applications including both portable and fixed installations. City's 3OZ sensor has recently been chosen for a large ozone detection network that one of our customers is installing in a food packaging plant in the UK.

Technology

BIOSENSORS

City Technology has always been associated with sensors used to protect people and property from the dangers of exposure to toxic and explosive gases. Traditionally our range of electrochemical, catalytic bead (pellistor), infrared and semiconductor sensors have been widely used in occupational health applications. However current work at City is focussing on developing a new biosensor based technology for detecting a very specific occupational health risk - enzymes.

Enzymes are used in a range of industrial processes and can, if inhaled, present a serious health risk to those exposed. The increasing incidence of "industrial asthma", caused by exposure to these enzymes, has resulted in the UK reducing the exposure limit for a specific type of protease enzyme, subtilisin, from 60 to 40ng/m³.

A team at City, lead by Dr Ian Christie is developing a biosensor capable of monitoring personal exposure to airborne subtilisin. The device, a dosimeter, is designed to clip onto the lapel and sample the air close to the individual's breathing zone. Once the sample has been collected, using a personal sampling pump, an enzyme assay is performed within the device.

As Ian explained "using our novel biochemistry we have been able to achieve limits of detection of less than 1ng of enzyme which means it is now feasible for this technology to be used for personal sampling. We believe that our technology will, in the future, be able to contribute significantly to improving personal exposure monitoring in industrial environments where enzymes are used."



Ian Christie and Tanja Dexter - City's biosensor development team

The biosensor technology under development at City is a direct result of a strategic alliance with Acaris Healthcare, a small private healthcare company based near Cambridge.

Acaris are committed to developing products to aid in the diagnosis and

management of asthma, a condition that affects over 150 million people around the world. Their first product, MiteAlert™, is a monitoring system for house dust mite allergens (HDMA), which are a common causative agent for allergic conditions such as asthma, eczema and rhinitis.

City Technology Updates Website

Our website - www.citytech.com - has just undergone a facelift. Retaining the structure and content that has proved very popular with users we hope you will find the new site easier to navigate and access the information you need.



Remember, as well as the English language site we also offer sites in German and Chinese:

German www.de.citytech.com

Chinese www.citytech.com.cn

Sensor 2005 - Nuremberg

If you are planning to visit Sensor 2005 in Nuremberg this spring (10-12 May) don't forget to drop in and see City. We are in Hall 7, Booth number 725.

For the first time, as part of the First Technology Gas Sensor Division, we will be exhibiting alongside SensoriC and EnviteC. We look forward to welcoming as many of you as possible to our stand and showing you what's new from City and our two sister companies.

For details of attendance at Sensor 2005 see the official show website www.sensor-test.com



SENSOR+TEST 2005

12th International Trade Fair for Sensorics, Measuring and Testing Technologies with concurrent Conferences

New Addition to North American Technical Support Team

Jay Thaker has recently taken on the role of Field Applications Engineer in North America with specific responsibility for our MMOS, automotive and medical sensors.



Jay Thaker - providing technical support in North America

Jay is ideally qualified for his new role having spent the last 3 years supporting the development of our range of MMOS sensors. Jay has a degree in Electronic and Semiconductor Science and an MSc in Engineering Management from The University Oxford.

In his short time in this role Jay has already become well known to some of our North American customers and is looking forward to working with many more in the coming months.

City Out and About

2005 promises to be a busy year for City Technology. Throughout the year we will be attending the following trade shows / exhibitions:

AHR	7-9 February, Orlando, USA
Sensor 2005	10-12 May, Nuremberg, Germany
MICONEX	13-16 September, Shanghai, PR China
AAPEX	1-4 November, Las Vegas, USA
MEDICA	16-19 November, Dusseldorf, Germany

For up to date information and exact booth locations at these events please see our website www.citytech.com



We want your views

We would like to hear what you think of this newsletter. Do you find the content useful and interesting, or does it cover things you already know? Are there any topics that you would like to be covered in more detail?

Whatever your views we would like to know - please forward any comments to **Nicola Nye** - nicola.nye@citytech.co.uk

e-Newsletter

The next issue of this newsletter will be available either in print or electronically.

If you would like to receive future issues electronically please inform **Nicola Nye** - nicola.nye@citytech.co.uk

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